

ARM Nauru Research Station
Site Visit 0504N Report

Visit Duration: 13 April to 22 April 2005

Nauru Island, Republic of Nauru

SV-0504N

Site: Nauru	Proposed Dates on Site: 13Apr05 - 22Apr05
Team Members: Troy Culgan Gary Eckert	Ship or hand carry prior to SV: Anemometer, Ceilometer, UPS battery (APC BP420S)
	Safety: Major Hazards: Caustic chemicals (KOH), Explosive gas (H2), AC electricity. Hazard Controls: BOM Electrolyser Handbook, BM Electrolyser Operations/Maintenance Training, ASNZS 4836/2001-Safe Working on LV Electrical Installations, 2 man rule.

Site Tasks

Priority	System	Date Completed (dd/Month)	Service Time in Hours	Tasks/Assoc Hazards-Controls For each priority item insert new line (row) for each date/time entry
1	AERI			Repair - Refer to mentor directions; Clean mirror if necessary
		14-Apr	2	Sent email to advise Jack Demirgian of interferometer LED status.
		15-Apr	3	Commenced dismantling and packing of AERI.
		16-Apr	1	Bomem interferometer packed and ready for shipment to SGP, will attempt to ship at first available opportunity.
2	H2GEN			Perform routine maintenance
		14-Apr	2	Preliminary checks and preparation.
		16-Apr	8	Performing routine maintenance, discovered this morning that water pump was now missing and no spare on site, requested Andrew obtain pump from Cappelle's and will sort out payment later (invoice to be sent to Susan Burckle).
		16-Apr	4	Oversee installation of new water pump with added security. Pump details: model XP350P8C serial number: 04012 312659.
		17-Apr	2	Stripped and cleaned Non return valve leading from compressor to storage tank as a reverse leak was detected. A minor leak still persists and the valve will need replacing at next scheduled maintenance trip. There is no safety concern with this leak.
		18-Apr	2	H2gen and RBL maintenance complete report to be sent.
3	MPL			Make necessary adjustments

		15-Apr	2	<p>Woked with Albert Mendoza on rectifying problem. Alberts comments: worked with Troy today. We tried to resolve the laser double pulse problem. Unfortunately, adjusting the RF output did NOT work. We returned the system back to it's original operating condition. The system is running at reduced laser power to prevent the double pulse. We are getting less than half the signal to noise than we should. The system will need to be replaced to get higher quality data. Since the system is operating, we have time to get another unit shipped to Nauru without needing to send me to replace the laser head (located inside the transceiver). Replacing a laser head in the field is not recommended.</p> <p>When and which unit to send requires dialog. There are several priorities looming over the horizon. Details will be forthcoming.</p>
4	MPL			Change out two(2) shutter timer batteries (AA)
		15-Apr	0. 2	Batteries changed at 02:45 15 Apr 05 UTC.
5	TSI			Check operation and ingest
		14-Apr	3	Investigation of fault in progress, cables reterminated as there were signs of corrosion.
		15-Apr	3	Disconnected and check all cable terminations including internal camera connections. Re-intilized system. TSI appears operational as of 20:00 14 Apr utc. Recommend mentor verify alignment.
6	SMET			Install anemometer
		17-Apr	1	Anemometer replaced at 03:45 17 Apr 05 UTC.
7	CEIL			Check the operation of the old Ceilometer
		15-Apr	0. 5	Recommend shipment to Darwin for testing.
8	HVAC			Maintenance by AE Smith (18-22Apr05)
		18-Apr	3	AE Smith AC tech arrived and performed preliminary checks.
		19-Apr	8	Replaced AC unt No 2 in E-Van (Daikin AC installed).
		21-Apr	8	Replaced AC unt No 1 in D-Van (Daikin AC installed).
9	BBSS			Change out UPS batteries (APC BP420S)
		15-Apr	Nil	Battery was unavailable for handcarry this site visit.
10	CIMEL			Change out belt
		20-Apr	1	Belt inspected and is in condition.
11	IRT			Change out SKYRAD IRT Gold Mirror
		18-Apr	0. 5	Inspected IRT lens and it looks in good condition, IRT mirror changed out at 20:23 17 Apr 05 UTC.
12	MMCR			Change out antenna heater filters
		20-Apr	1	Filter replaced.
13	MMCR			Change out TWTA desiccant
		16-Apr	0. 5	Dessicant changed at 03:11 16 Apr 05 UTC.
14	MWR			Replace Teflon window
		17-Apr	0. 5	Inspected Teflon window and it is in good condition.
		18-Apr	0. 5	MWR heater sensitivity checked and adjusted.
		19-Apr	1	On advice from mentor teflon window replaced: commenced 01:40 completed 02:45 19 Apr 05 UTC.

		19-Apr	0.5	During replacement of Teflon window, it was noticed that the power plug to the Fan/Heater assembly is still a temporary repair and a replacement cable is recommended. No spare can be located on site.
15	COMM			Take inventory of Observer computers (desktop, laptop); Identify any additional accessory needs
		18-Apr	1	Inventory of computers taken and report sent to Kim and Larry.
16	GOES			(On D-Van) Disassemble and pack up for storage on site
		18-Apr	1	GOES Transmitter disconnected.
		21-Apr	2	GoeS Transmitter and antenna assembly packed and stored on site.
17	OTHER			Take inventory of fuse and resister kits
		19-Apr	3	Inventory completed and report sent.
18	SHIPPING			List items to be shipped following visit
				AERI to SGP
				WSI on site spares to SGP
				Spare ceilometer to Darwin
19	FUTURE NEEDS			List items needed for future visits (spares, etc.)
				Spare H2GEN water pump
				UPS batteries (APC BP420S)
20	Genset			Check operation of rundown time
		15-Apr	1	Verified current settings and informed Rex Pearson. Requested Rex to identify necessary changes.
		16-Apr	1	Return to utility set to 2 min and cooldown time set to 1 min. There would appear to be a non adjustable 5min cooldown also incorporated in the system. These changes have now minimized the run on time after power is restored.
20	Skyrad			PSPG ventilator
		19-Apr	1-Jan	Repaired wiring to PSPG ventilator Fan, fan operation restored at 01:33 19 Apr 05 UTC.
21	BBSS			Reconfigure Digicora for RS92 sonde and develop launch procedure for Manus (Urgent)
		20-Apr	2	Nauru Digicora reconfigured and procedure sent to Manus.
			4	Launch procedure trialled with two launches today, Procedure to be written for Manus.
		21-Apr	1	Performed training with Nauru observers on RS92 sonde launch procedures.
		21-Apr	2	Worked with Hymson via phone and emailed procedures to re-configure the Digicora and work through launch procedures as Manus only has RS92 sondes.